2-9-53

[redacted] SAWFLY

Plumas National Forest, California

October 1952

APPRAISAL SURVEY

Mr. J. E. Larson, a survey cooperator and forester for the Bercut-Richards Lumber Company, informed the Forest Insect Laboratory last year of a defoliator outbreak in white fir stands east of La Porte, Plumas County. Following continuance of the infestation this year, Mr. Larson again reported the situation and a survey of the area was subsequently conducted on October 24-25, 1952 by Mr. M. M. Furniss of the Laboratory, accompanied by Mr. R. Lang, District Ranger, Plumas National Forest. Mr. Larson was unable to participate in the survey.

The examination revealed that severe defoliation caused by a sawfly, Neodiprion spp. had occurred in dense second-growth white fir in the vicinity of Table Rock, Howland Flat and Whiskey Diggings on the Slate Creek drainage, T 21, 22N; R10E; MDM. During the second day of the inspection, countless numbers of male and female adults were observed in flight among the trees. Others were seen to emerge from cocoons in the duff. Flight occurred after a period of approximately 5 to 10 minutes of exercising their wings.

The Howland Flat area was subsequently examined by Messrs. R. C. Hall and G. R. Struble of the Forest Insect Laboratory on October 30 to make further observations on the character and extent of damage and to secure information on biology of the insect. At that time, many adults were still in flight, but emergence from cocoons had ended, and dead adults in the duff indicated that the flight was nearing an end. Egg depositions were numerous and extensive in the needles.

The combined examinations and appraisal of the affected areas, covering about 5,000 acres defoliated in varying degree from 15 to 100 percent, revealed that: (1) The sawfly occurred exclusively on white fir although red fir and several pine species were present in the stand, (2) Continued defoliation may be expected and killing may occur among the most heavily defoliated trees, (3) Past defoliation has been associated with shaded foliage, being heaviest on suppressed trees and the lower (or shaded) portions of dominant trees. However, eggs laid this fall were found on sunlit foliage by G. R. Struble. (4) Numerous eggs deposited by adults during the fall flight point to a continuation of defoliation and perhaps extended damage next summer, (5) Suppressive measures appear to be warranted as soon as the necessary biological information is obtained.

This defoliation is the first record of extensive damage by sawflies in California. Although occasionally found on white fir during the past 40 years, sawflies have never been known to cause damage sufficient to warrant control

action. No studies have been made of the insect. It is evident that experimental work will have to be conducted before recommending a control method applicable on a large scale, should the outbreak spread or persist. A discussion of the various biological aspects of the problem is in preparation by the Entomologist G. R. Struble of the Berkeley Laboratory.

Forest Insect Laboratory
Berkeley, California
February 9, 1953

M. M. Furniss
Forester

156548 Groups of white fir exhibiting the various degrees of defoliation encountered generally throughout the affected area.

156544 Closeup of a group of white fir showing nearly total defoliation.

15654F Host selection by the sawfly. Defoliated tree at right is white fir. Red fir at left was untouched.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
BERKELEY FOREST INSECT LABORATORY

INFESTATION MAP
PLUMAS N.F.